Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A method of rotating data in a plurality of processing elements, comprising:

a plurality of shifting operations performed by a plurality of rows or columns of processing elements connected in an array, each shifting operation being preformed such that each processing element in each row or column receives the data originally held by every other processing element in that row or column, respectively; and

a plurality of selecting operations performed by said plurality of processing elements on said received data, where each of the received data is a candidate for selection, said shifting and selecting operations coordinated to enable a three shears operation to be performed on the data.

2. (previously presented) The method of claim 1 wherein said plurality of selecting operations are responsive to initial counts which are either loaded into at least certain of said processing elements or calculated locally based on the processing element's location.

3. (original) The method of claim 2 additionally comprising maintaining a current count in each processing element for each initial count, said current counts being responsive to said initial counts and the number of data shifts performed.

4. (original) The method of claim 3 wherein said maintaining current counts includes altering said initial counts at programmable intervals by a programmable amount.

5. (original) The method of claim 4 wherein said initial counts are decremented in response to a shifting of data to produce said current counts.

6. (previously presented) The method of claim 5 wherein a selecting operation is performed when a current count in a processing element is non-positive.

7. (original) The method of claim 1 additionally comprising selecting which processing elements are active in response to a row select signal and a column select signal.

8. (currently amended) A method of rotating data in a plurality of processing elements connected in an array, comprising:

a first shifting of a plurality of data in a first direction along a plurality ~~one~~ of ~~a row or a column~~ rows or columns until each processing element in each row or column has received data originally held by every other processing elements in that row or column, respectively;

a first selection of data from said received data, where each of the received data is a candidate for selection, in response to said first shifting and the positions of said plurality of processing elements;

a second shifting of said plurality of data in a second direction perpendicular to said first direction along the plurality ~~one~~ of ~~a row or a column~~ rows or columns until each processing element in each row or column has received data originally held by every other processing elements in that row or column, respectively;

a second selection of data from said received data, where each of the received data is a candidate for selection, in response to said second shifting and the positions of said plurality of processing elements;

a third shifting of said plurality of data in a third direction opposite to said first direction along the plurality ~~one~~ of ~~a row or a column~~ rows or columns until each processing element in each row or column has received data originally held by every other processing elements in that row or column, respectively; and

a third selection of data from said received data, where each of the received data is a candidate for selection, in response to said third shifting and the positions of said plurality of processing elements.

9. (previously presented) The method of claim 8 wherein said first, second and third selection of data are responsive to initial counts which are either loaded into at least certain of said processing elements or calculated locally based on the processing element's location.

10. (original) The method of claim 9 additionally comprising maintaining a current count in each processing element for each initial count, said current counts being responsive to said initial counts and the number of data shifts performed.

11. (original) The method of claim 10 wherein said maintaining current counts includes altering said initial counts at programmable intervals by a programmable amount.

12. (original) The method of claim 11 wherein said initial counts are decremented in response to a shifting of data to produce said current counts.

13. (previously presented) The method of claim 12 wherein a selection operation is performed when a current count in a processing element is non-positive.

14. (previously presented) The method of claim 8 additionally comprising selecting which of said processing elements are active using a row select signal and a column select signal.

15. (previously presented) The method of claim 8, wherein:

said first shifting and selecting operations are coordinated to enable a first shear operation to be performed in said first direction;

said second shifting and selecting operations are coordinated to enable a second shear operation to be performed in said second direction; and

said third shifting and selecting operations are coordinated to enable a third shear operation to be performed in said third direction.

16. - 21. (cancelled)

22. (currently amended) A method of rotating data in a plurality of processing elements connected in an array, comprising:

a first shifting of a plurality of data in a first pair of directions along a plurality of rows and columns to enable each processing element in each row or column to receive the data originally held by every other processing element in that row or column, respectively;

a first selecting of data by said plurality of said processing elements in response to said first shifting and the positions of said plurality of processing elements, where each of the received data is a candidate for selection;

a second shifting of said plurality of data in a second pair of directions along the plurality of rows and columns perpendicular to said first pair of directions to enable each processing element in each row or column to receive the data originally held by every other processing element in that row or column, respectively;

a second selecting of data by said plurality of processing elements in response to said second shifting and the positions of said plurality of processing elements, where each of the received data is a candidate for selection;

a third shifting of said plurality of data in said first pair of directions along the plurality of rows and columns to enable each processing element in each row or column to receive the data originally held by every other processing element in that row or column, respectively; and

a third selecting of data by said plurality of processing elements in response to said third shifting and the positions of said plurality of processing elements, where each of the received data is a candidate for selection.

23. (previously presented) The method of claim 22 wherein said first, second and third selecting of data are responsive to initial counts which are either loaded into at least certain of said processing elements or calculated locally based on the processing element's location.

24. (original) The method of claim 23 additionally comprising maintaining a current count in each processing element for each initial count, said current counts being responsive to said initial counts and the number of data shifts performed.

25. (original) The method of claim 24 wherein said maintaining current counts includes altering said initial counts at programmable intervals by a programmable amount.

26. (original) The method of claim 25 wherein said initial counts are decremented in response to a shifting of data to produce said current counts.

27. (previously presented) The method of claim 26 wherein a selecting operation is performed when a current count in a processing element is non-positive.

28. (previously presented) The method of claim 22 additionally comprising selecting which of said processing elements are active using a row select signal and a column select signal.

29. (previously presented) The method of claim 22 wherein:

said first shifting and selecting operations are coordinated to enable a first shear operation to be performed in said first pair of directions;

said second shifting and selecting operations are coordinated to enable a second shear operation to be performed in said a second pair of direction; and

said third shifting and selecting operations are coordinated to enable a third shear operation to be performed in said first pair of directions.

30. - 35 (cancelled)

36. (currently amended) A computer readable memory device carrying a set of instructions which, when executed, perform a method comprising:

a plurality of shifting operations using a plurality of rows or columns of processing elements connected in an array, each shifting operation being preformed such that each processing element in each row or column receives the data originally held by every other processing element in that row or column, respectively; and

a plurality of selecting operations performed using said plurality of processing elements on said received data, where each of the received data is a candidate for selection, said shifting and selecting operations coordinated to enable a three shears operation to be performed on the data.